

# PUBLIC HEALTH FACT SHEET

## Babesiosis

Massachusetts Department of Public Health, 305 South Street, Jamaica Plain, MA 02130

### What is babesiosis?

Babesiosis is a disease caused by a microscopic parasite (a type of germ similar to those that cause malaria) that infects red blood cells.

### Where is babesiosis found?

Babesiosis is found most commonly in coastal areas in the northeastern United States. In Massachusetts, the majority of cases are reported from Nantucket, Martha's Vineyard, and Cape Cod.

### How is babesiosis spread?

The germ is spread by tiny, infected ticks (in Massachusetts, by deer ticks). Deer ticks cling to plants near the ground in brushy, wooded or grassy places. The ticks, which cannot jump or fly, climb onto animals and people who brush against the plants. Very young ticks, called larvae, which are no bigger than the period at the end of this sentence, pick up the germ that causes babesiosis by biting infected small animals, such as the white-footed mouse. Slightly older ticks, called nymphs, that are the size of a poppy seed, are the stage most likely to bite and infect humans. Adult deer ticks can also transmit the disease, but they are not as great a risk as nymphs. This is because adults are less likely to bite humans and they are easier to see and remove. Adult deer ticks are about the size of a sesame seed. The highest risk of disease occurs between late May and early autumn, when ticks are most active. The tick must be attached and feeding for about 36-48 hours before it can pass the germ to a person.

### What are the symptoms of babesiosis?

Most people who are infected by the parasite will show very mild signs of illness or no signs at all. Symptoms begin to happen gradually about 1-9 weeks after being bitten by an infected tick and can include fever, chills, headache, achy joints and muscles, fatigue, nausea, vomiting, abdominal pain, and dark urine. Symptoms can last from several days to several months. The elderly, people without a healthy spleen, and people who have weakened immune systems are more likely to develop potentially life-threatening symptoms. It is also possible to get babesiosis and other diseases spread by ticks (like Lyme disease) from the same tick bite. People who get more than one of these diseases at the same time may be more seriously affected.

### Is there a treatment for babesiosis?

In most cases, babesiosis can be effectively treated with antimicrobials. Rarely, a blood transfusion and/or kidney dialysis may be necessary for patients with severe disease.

### How can you prevent babesiosis?

There is currently no vaccine available to prevent babesiosis. The best prevention is to avoid tick bites. Deer ticks are most numerous near the ground in brushy, wooded or high grassy areas. Ticks are most active during the months of April through September. If you live in or visit an area likely to have deer ticks, take the following precautions:

- Wear a long-sleeved shirt and long pants, and tuck your pant legs tightly into your socks. (Light colors will help you spot the ticks on your clothes before they reach your skin.)

- Stay to the middle of paths when walking or hiking.
- On exposed skin use a repellent that contains the active ingredient DEET (the chemical N-N-diethyl-meta-toluamide). Always follow the directions on the label. DEET can be poisonous if overused. Avoid using repellents with DEET concentrations above 10-15% for children and with concentrations above 30-35% for adults. Do not apply repellents to the hands or faces of young children. Repellents should never be used on infants. Cream, lotion or stick formulas with low amounts of alcohol are best for use on the skin. The insecticide permethrin, which kills ticks on contact, can also be used to protect against ticks. In order to work well, this chemical can only be used on clothing.
- Make the area around your home less attractive to ticks by removing leaf litter and brush, mowing lawns regularly, and trimming low-lying bushes. Keeping woodpiles and birdfeeders off the ground and in sunny areas away from your home can help keep away rodents that may have ticks on them. If you use pesticides around your home, always follow the label instructions and never use pesticides near streams or other bodies of water.
- Talk to your veterinarian about the best way to protect your pets against ticks.
- Check yourself, your children, and your pets for ticks every day. Remember deer ticks, especially the nymphs, are only the size of a poppy seed. Their favorite places to attach are on the legs, in the groin, in the armpits, along the hairline, and in or behind the ears.
- Remove any ticks promptly using fine point tweezers. Do not use your bare fingers to remove a tick. Grasp the tick as close to the skin as possible and, without squeezing or twisting, pull the tick straight out with steady pressure. Once removed, disinfect the area with rubbing alcohol.
- Know the symptoms of babesiosis. If you have been someplace likely to have ticks between April and September and you develop babesiosis symptoms, see a doctor right away.

## **Where can you get more information?**

- Your doctor, nurse or clinic
- Your local board of health (listed in the telephone directory under “government”)

The Massachusetts Department of Public Health, Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850, or on the MDPH website at <http://www.mass.gov/dph>

- Massachusetts Poison Control Center (concerning adverse reactions to insect repellents or other pesticides) at (617) 232-2120 (Boston) or 1-800-682-9211 (other areas in Massachusetts) or 1-888-244-5313 (hearing impaired)